

EXHIBIT V

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

IN RE NATIONAL : MDL No. 2804
PRESCRIPTION OPIATE : CASE NO. 17-MD-2804
LITIGATION : (DAP)
:

EXPERT REPORT OF CRAIG J. MCCANN, PH.D., CFA
March 25, 2019

I. Qualifications and Remuneration

A. Qualifications

1. I am the President of Securities Litigation and Consulting Group, Inc. (“SLCG”). SLCG was founded in 2000 to apply finance, economics, statistics and mathematics in litigation and consulting. SLCG staff includes professionals with PhDs and advanced degrees in applied mathematics, statistics, finance and economics.

2. Prior to founding SLCG, I was a Director at LECG, a business unit of Navigant Consulting, Inc. Prior to joining LECG, I was Managing Director, Securities Litigation at KPMG LLP for two years. I was a senior financial economist in the Office of Economic Analysis at the U.S. Securities and Exchange Commission (the “SEC”) from 1992 to 1993 and from 1994 to 1995.

3. I have taught graduate economics and finance courses at the University of South Carolina, Virginia Tech, Georgetown University and at the University of Maryland, College Park.

4. I have been hired as a consultant and expert witness in investigations by many state and federal agencies including the SEC, the Federal Deposit Insurance Corporation and the U.S. Department of Justice.

5. My work as a consultant and expert witness over the past 25 years has required me to extract or receive data, process and validate the data and produce varied statistical analyses.

6. I earned a Ph.D. in Economics from the University of California, at Los Angeles. My graduate studies included extensive coursework in mathematics, statistics and econometrics.

7. My resume, which includes a list of all publications authored by me within the last 10 years and the cases in which I have testified as an expert at trial or by deposition within the last four years, is attached as Appendix 1.

B. Remuneration

8. SLCG is being compensated for its time and expenses. My hourly rate is \$475 per hour. Other SLCG personnel working on this matter have billing rates of \$100 to \$350 per hour.

II. Materials Reviewed

9. In preparing this report, I have considered the following documents:

- a. Automation of Reports and Consolidated Orders System (ARCOS) electronic data, received from the Drug Enforcement Administration (hereafter, “ARCOS Data”);
- b. “ARCOS Retail Drug Summary Reports,” Drug Enforcement Administration, 2000-2017, (available at www.deadiversion.usdoj.gov/arcos/retail_drug_summary/index.html);
- c. “National Drug Code Dictionary,” Drug Enforcement Administration, November 2018 (current version available at www.deadiversion.usdoj.gov/arcos/ndc/ndcfile.txt);

- d. "NDC Dictionary Instructions," Drug Enforcement Administration, October 2010 (current version available at www.deadiversion.usdoj.gov/arcos/ndc/readme.txt);
- e. "NDC/NHRIC Labeler Codes," U.S. Food & Drug Administration, January 2018 (current version available at www.fda.gov/ForIndustry/DataStandards/StructuredProductLabeling/ucm191017.htm);
- f. "Opioid Oral Morphine Milligram Equivalent (MME) Conversion Factors," Centers for Disease Control and Prevention, August 2017 (current version available at www.cdc.gov/drugoverdose/resources/data.html);
- g. "Full Replacement Monthly NPI File," Centers for Medicare and Medicaid Services, November 2018 (current version available at download.cms.gov/nppes/NPI_Files.html);
- h. ARCOS Registrant Handbook, Drug Enforcement Administration, August 1997 (current version available at www.deadiversion.usdoj.gov/arcos/handbook/full.pdf);
- i. *Masters Pharmaceutical, Inc. v. Drug Enforcement Administration*, 861 F.3d 206 (D.C. Cir. 2017);
- j. U.S. Dep't of Justice, DEA, *Chemical Handler's Manual: A Guide to Chemical Control Regulations* (2004), (WAGMDL00395965);
- k. U.S. Dep't of Justice, DEA, Diversion Investigators Manual (1990)(CAH_MDL_PRIORPROD_DEA07_01176247);

1. U.S. Dep't of Justice, DEA, Diversion Investigators Manual (1996) (CAH_MDL2804_02203353);
 - m. Other documents cited in the text and footnotes below.

III. Assignment

10. I have been asked by Plaintiffs' Counsel to document how I processed, validated and augmented opioid transaction data produced by the Drug Enforcement Administration ("DEA") and from the Defendants.

11. I have been asked to summarize shipments in the ARCOS Data, especially those shipments into Cuyahoga County and Summit County.

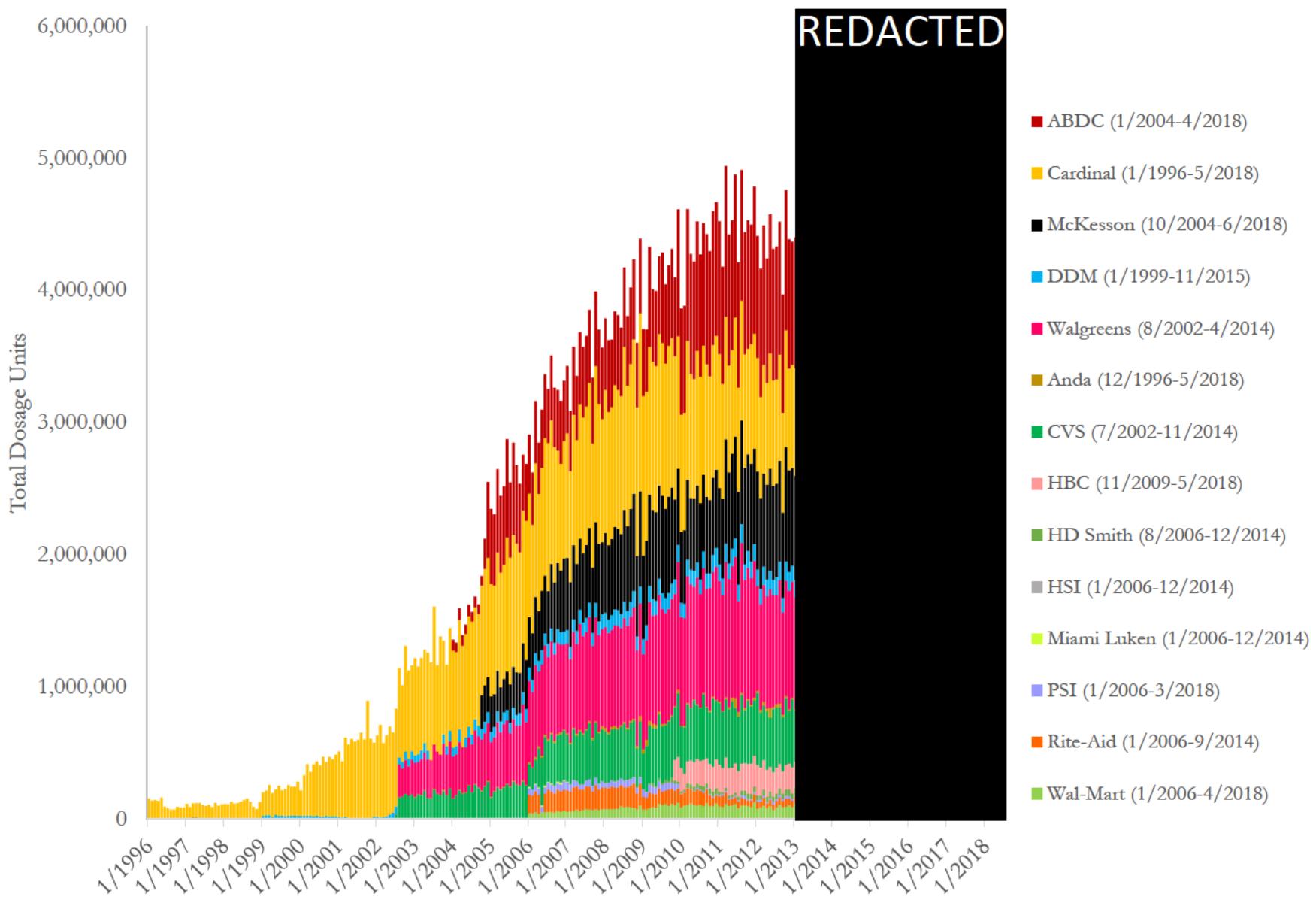
12. I have also been asked to report the results of applying certain algorithms to the ARCOS Data.

IV. Summary of Opinions

13. Based upon my comparison of the ARCOS Data produced by the DEA and the public ARCOS Retail Drug Summary Reports, I conclude that, after correcting a relatively small number of records, the ARCOS Data produced by the DEA is reliable.

14. I conclude that the ARCOS Data is reliable because it closely matches the DEA's Retail Drug Summary Reports for January 2006 through December 2014. Retail Drug Summary Reports summarize the weight of drugs in reported transactions with consumers in each of the 50 states and the District of Columbia. Where there were discrepancies between the ARCOS Data produced by the DEA and the Retail Drug Summary Reports, I was able

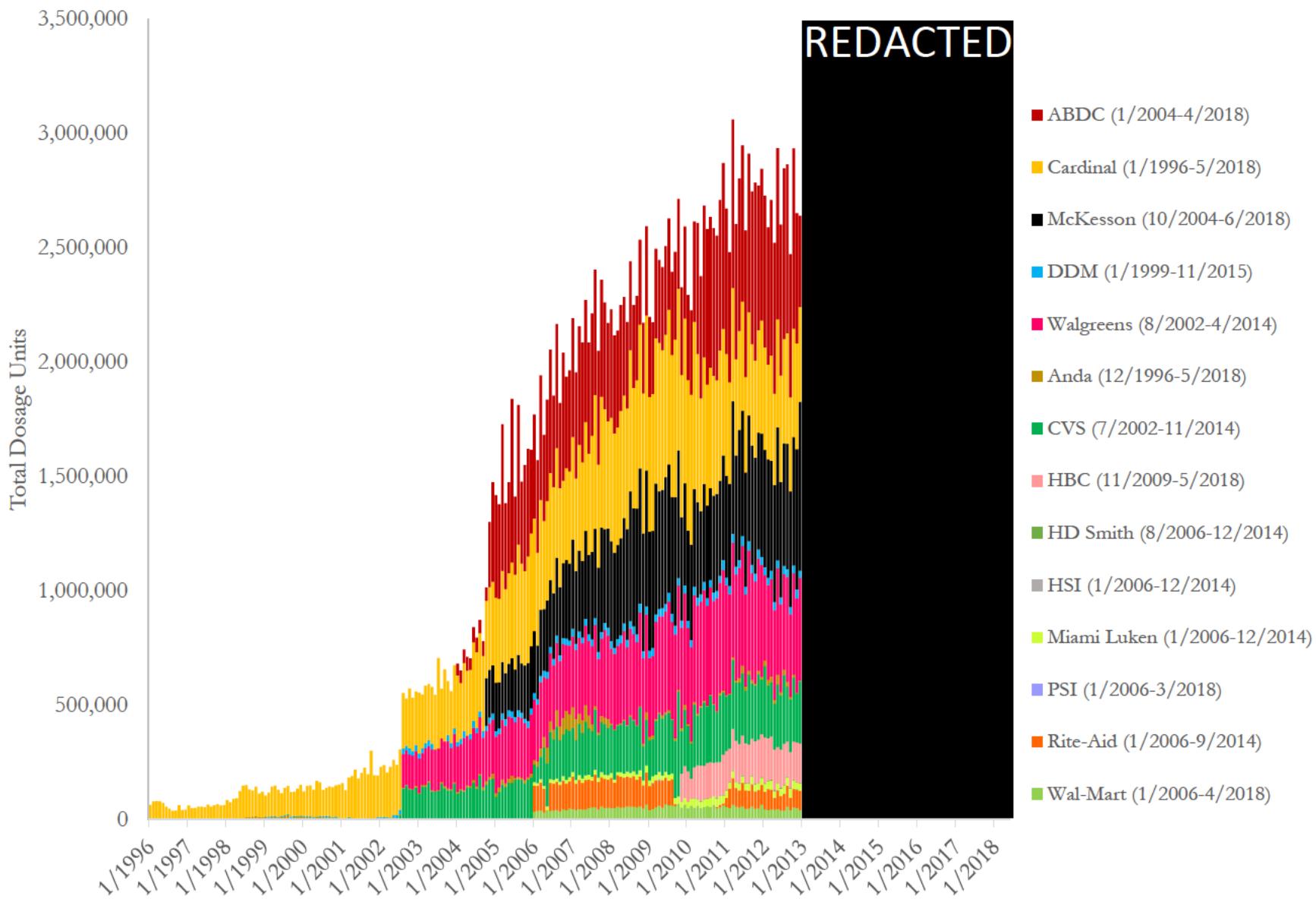
All Defendants 12 Opioid Drug Distribution into Cuyahoga County, OH 1996 - 2018



Data source: ARCOS (2006-2014) and defendant transactional data

12 opioid drugs include: Codeine, Dihydrocodeine, Fentanyl, Hydrocodone, Hydromorphone, Levorphanol, Meperidine, Morphine, Opium, Oxycodone, Oxymorphone, Tapentadol

All Defendant 12 Opioid Drug Distribution into Summit County, OH
1996 - 2018



Data source: ARCOS (2006-2014) and defendant transactional data

12 opioid drugs include: Codeine, Dihydrocodeine, Fentanyl, Hydrocodone, Hydromorphone, Levorphanol, Meperidine, Morphine, Opium, Oxycodone, Oxymorphone, Tapentadol

Opioid Shipments to Pharmacies in Cuyahoga County, OH
2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
1		REDACTED		C	9,439,144	106,168	148,823,836
5				R	3,220,684	65,837	101,193,011
10				R	3,177,454	56,864	93,850,731
14				C	6,877,132	71,000	93,564,044
19				R	3,921,195	57,357	86,426,553
23				R	4,498,529	34,310	83,763,793
27				R	7,483,329	51,634	83,048,618
31				R	2,261,882	39,251	74,962,129
35				C	4,645,702	43,729	71,408,433
39				R	3,530,387	31,478	69,872,764
43				C	5,333,591	48,728	69,606,155
47				C	5,401,146	50,534	67,630,712
51				C	4,834,040	43,630	65,525,064
55				R	3,260,450	25,409	64,241,305
59				R	3,669,811	26,958	56,970,517
62				C	3,970,422	39,248	56,211,896
66				C	4,757,197	38,091	52,765,599
70				C	4,927,250	39,962	47,597,438
74				C	3,819,737	37,787	47,299,282
78				R	2,811,106	31,413	46,906,898
83				R	2,322,545	32,348	45,504,357
87				C	3,302,023	30,765	45,371,766
91				C	2,640,719	29,937	45,122,247
95				C	2,616,965	30,065	44,925,720
99				C	2,995,267	33,976	44,149,983
103				C	3,474,783	32,243	42,944,462
107				C	2,539,394	33,415	42,924,733
111				C	2,868,051	31,602	40,939,728
115				C	2,696,477	25,874	39,632,247
119				R	2,754,420	25,098	37,922,348
123				C	3,572,879	27,923	37,084,153
127				C	3,011,260	31,280	36,767,672
131				R	1,923,359	25,692	35,209,533
135				C	3,181,432	27,761	35,197,320
139				C	2,276,182	23,397	35,085,948
143				C	2,941,583	23,788	32,881,364
147				C	2,462,072	28,759	32,869,944
151				C	2,237,919	23,903	31,758,181
155				C	2,053,892	24,293	31,693,238
159				C	2,400,538	21,433	31,405,653
163				C	2,252,613	18,329	30,957,813

Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
167			REDACTED	C	2,562,006	19,055	30,465,290
171			REDACTED	C	2,441,815	26,438	30,393,664
175			REDACTED	C	2,806,734	26,379	29,772,018
179			REDACTED	C	1,877,225	21,499	29,696,334
183			REDACTED	C	2,862,565	23,289	28,975,574
187			REDACTED	R	3,325,898	27,072	28,611,652
191			REDACTED	C	1,615,645	19,064	27,701,395
195			REDACTED	C	2,302,838	19,195	27,566,379
200			REDACTED	C	2,361,579	18,247	27,320,984
204			REDACTED	C	1,818,235	21,839	26,510,427
208			REDACTED	C	1,897,391	21,904	26,471,563
212			REDACTED	C	2,238,790	19,228	26,434,991
217			REDACTED	C	2,946,139	21,495	24,743,835
221			REDACTED	C	1,880,529	20,724	24,714,275
225			REDACTED	C	2,327,485	21,864	24,642,398
229			REDACTED	C	2,359,920	18,755	24,639,172
233			REDACTED	C	2,203,866	18,543	24,496,993
237			REDACTED	C	2,683,960	19,366	24,405,880
241			REDACTED	C	1,810,077	16,148	23,890,073
245			REDACTED	C	1,651,984	16,596	23,165,699
250			REDACTED	C	1,869,453	17,152	23,154,677
254			REDACTED	C	1,896,587	17,786	23,114,667
258			REDACTED	R	1,814,732	15,138	23,007,728
262			REDACTED	C	1,816,941	17,981	22,861,337
266			REDACTED	C	1,708,840	15,178	22,699,573
270			REDACTED	C	2,370,221	16,383	22,308,551
274			REDACTED	C	2,140,125	17,021	21,891,787
278			REDACTED	C	1,979,031	15,173	21,688,396
283			REDACTED	C	2,152,243	15,785	21,436,092
287			REDACTED	C	2,224,620	15,930	21,224,530
291			REDACTED	C	1,682,112	14,094	20,741,802
295			REDACTED	C	1,784,549	14,037	20,113,016
299			REDACTED	C	1,569,128	15,226	19,915,771
303			REDACTED	C	1,430,309	13,081	19,551,807
307			REDACTED	C	1,467,465	14,769	19,267,103
311			REDACTED	R	1,066,015	12,455	19,016,178
317			REDACTED	R	1,072,284	12,511	18,928,349
321			REDACTED	R	1,863,192	14,422	18,796,726
325			REDACTED	C	1,017,088	12,870	18,572,641
329			REDACTED	R	2,315,435	15,915	18,523,489
333			REDACTED	R	988,031	7,971	18,385,962

Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
336		REDACTED		C	1,873,946	14,222	18,380,452
340				C	2,323,434	16,631	18,329,219
344				C	1,540,257	13,398	18,171,051
349				C	1,193,880	15,006	17,705,207
353				C	2,116,190	13,253	17,639,788
358				C	1,218,536	12,488	17,565,644
362				R	2,038,079	10,950	17,414,617
366				C	1,934,429	17,320	17,364,216
370				R	5,231,200	29,598	17,230,798
374				C	1,145,269	13,304	17,146,892
378				R	1,192,208	12,682	17,017,182
381				C	1,296,555	12,839	17,015,488
385				C	1,354,176	11,486	16,956,850
389				C	1,485,581	13,262	16,914,173
393				C	1,355,320	13,196	16,895,818
398				C	1,371,274	12,185	16,655,889
402				C	2,096,452	13,875	16,622,426
406				C	1,497,255	13,505	16,567,806
410				C	1,624,436	14,008	16,392,167
414				C	1,567,604	12,169	16,142,475
418				C	1,490,824	13,874	16,043,206
422				C	966,725	8,126	15,941,209
426				C	1,737,196	12,133	15,715,369
431				C	1,706,486	12,409	15,627,921
435				C	1,943,420	12,082	15,465,374
439				C	1,507,285	11,753	15,072,783
443				C	1,148,561	11,481	14,922,386
447				C	779,881	9,469	14,728,696
451				C	1,179,185	10,184	14,625,821
455				C	1,417,629	9,763	14,235,459
459				C	915,650	10,279	14,216,650
463				R	1,447,141	9,816	14,136,167
467				C	669,656	9,176	13,919,743
471				C	1,526,124	12,430	13,880,574
475				C	1,580,883	11,608	13,756,136
479				C	2,154,361	12,485	13,490,174
484				R	NA	3,136	13,160,692
488				C	1,669,112	11,814	13,097,373
493				C	1,617,259	10,652	13,062,558
497				R	537,814	8,626	12,952,981
500				C	1,318,607	8,369	12,241,574

Opioid Shipments to Pharmacies in Cuyahoga County, OH
2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
504		REDACTED		C	1,242,622	9,348	12,031,706
508				C	1,315,519	10,526	12,000,850
512				C	1,211,011	8,935	11,804,400
516				C	1,614,850	9,320	11,784,154
520				C	1,213,286	7,938	11,587,357
524				C	811,756	8,326	11,519,504
528				C	1,157,234	8,398	11,492,658
532				C	779,298	7,077	11,422,622
536				C	1,052,446	8,429	11,361,575
540				C	1,248,957	11,884	11,250,310
544				C	1,154,114	7,332	11,098,397
548				C	974,001	8,464	10,942,670
552				C	1,504,925	9,829	10,897,993
557				R	1,619,460	12,842	10,868,799
561				C	1,129,379	9,603	10,799,500
565				C	1,253,262	9,218	10,663,451
569				C	1,499,345	9,569	10,448,873
573				C	1,408,807	8,310	10,350,995
578				C	931,770	7,323	10,342,546
582				C	1,264,885	7,675	10,266,143
586				C	1,028,748	7,993	10,231,045
590				C	1,277,153	7,585	10,155,075
594				R	821,622	7,474	9,898,659
598				C	1,249,685	11,577	9,863,848
602				C	988,737	7,488	9,772,131
606				C	1,586,823	9,265	9,755,273
610				C	1,048,460	7,940	9,712,372
614				C	1,027,710	7,107	9,675,363
618				C	936,491	7,982	9,540,768
622				C	1,231,212	7,900	9,446,578
626				C	815,799	8,700	9,295,421
630				C	576,760	6,354	9,275,074
634				C	853,105	7,449	9,220,046
638				C	582,975	7,518	9,014,469
642				C	646,682	5,957	8,977,574
646				C	708,905	6,706	8,919,422
650				R	1,018,645	8,741	8,918,277
653				C	1,202,562	8,065	8,906,602
658				R	442,880	3,950	8,873,685
663				C	621,229	6,228	8,801,616
667				C	1,276,954	7,723	8,783,455

Opioid Shipments to Pharmacies in Cuyahoga County, OH
2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
671		REDACTED		C	682,484	6,069	8,700,739
675				C	1,322,335	7,677	8,673,161
679				C	849,436	6,517	8,630,256
683				C	1,286,548	8,006	8,609,694
687				C	717,324	6,438	8,600,221
691				C	1,140,454	9,386	8,598,276
695				C	826,950	6,029	8,416,013
700				R	992,000	6,273	8,338,599
704				C	997,755	6,947	8,260,619
707				C	1,030,087	6,727	8,162,759
711				R	485,110	3,754	8,158,122
714				R	992,820	7,123	8,004,521
719				C	1,253,911	6,987	7,991,172
724				C	1,092,265	7,247	7,870,252
728				C	1,016,800	5,654	7,771,489
732				C	856,751	5,886	7,534,316
736				C	679,324	4,879	7,415,245
740				C	1,283,470	7,987	7,369,841
744				C	705,728	6,050	7,006,190
749				C	1,024,058	6,085	6,927,941
753				C	750,212	4,926	6,887,285
757				C	867,492	7,662	6,874,627
761				C	972,099	6,784	6,836,261
765				C	861,930	7,723	6,836,246
769				C	NA	2,324	6,832,990
773				C	720,584	5,600	6,773,977
777				C	678,725	5,569	6,749,485
781				C	875,600	5,424	6,748,841
785				C	735,995	4,583	6,670,505
788				R	408,661	2,982	6,605,979
792				R	685,725	5,521	6,551,523
796				C	1,010,792	6,497	6,392,405
800				R	241,910	3,881	6,364,023
803				C	940,259	6,291	6,238,185
807				R	426,557	3,074	6,103,544
810				C	645,140	5,132	5,777,885
813				C	745,305	5,808	5,715,419
817				C	934,940	6,021	5,691,279
821				C	NA	1,761	5,641,101
825				C	755,077	4,820	5,594,733
829				C	838,090	5,900	5,449,189

Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
833			REDACTED	R	523,412	3,684	5,308,871
837			REDACTED	R	449,715	3,488	5,295,780
840			REDACTED	C	545,528	4,472	5,237,003
844			REDACTED	C	789,010	6,723	5,104,795
848			REDACTED	C	876,435	6,977	5,086,826
852			REDACTED	C	302,455	3,658	4,934,798
855			REDACTED	C	616,021	4,459	4,866,887
859			REDACTED	R	472,725	4,313	4,810,927
863			REDACTED	C	667,515	4,665	4,515,692
867			REDACTED	R	373,939	3,253	4,409,243
871			REDACTED	C	577,035	5,141	4,279,008
875			REDACTED	R	429,979	3,883	4,221,084
879			REDACTED	C	495,159	4,176	4,197,738
883			REDACTED	C	603,045	4,544	4,180,890
887			REDACTED	C	507,913	3,427	4,097,429
891			REDACTED	R	275,099	1,971	4,090,269
894			REDACTED	C	581,880	3,805	4,036,697
898			REDACTED	C	447,132	2,981	4,015,098
902			REDACTED	C	486,819	3,443	3,983,867
906			REDACTED	C	303,202	1,844	3,876,844
910			REDACTED	C	554,895	4,290	3,869,772
913			REDACTED	C	232,305	2,936	3,806,612
916			REDACTED	C	665,552	4,777	3,774,661
920			REDACTED	C	483,215	3,697	3,745,299
924			REDACTED	C	329,440	3,182	3,716,131
928			REDACTED	C	518,720	3,564	3,684,627
932			REDACTED	C	284,045	2,285	3,620,252
936			REDACTED	C	371,870	2,851	3,595,258
940			REDACTED	C	524,975	4,034	3,562,619
944			REDACTED	C	614,600	4,125	3,559,809
948			REDACTED	C	512,450	3,638	3,553,206
951			REDACTED	C	437,922	2,780	3,530,900
954			REDACTED	C	306,536	2,770	3,344,153
958			REDACTED	C	519,287	3,169	3,318,573
962			REDACTED	C	260,006	2,731	3,283,779
965			REDACTED	C	271,872	1,992	3,277,341
969			REDACTED	C	377,669	2,789	3,277,339
973			REDACTED	C	565,530	3,324	3,222,703
977			REDACTED	C	395,565	2,719	3,113,852
981			REDACTED	R	283,345	2,766	2,949,120
984			REDACTED	C	323,380	3,250	2,777,879

Opioid Shipments to Pharmacies in Cuyahoga County, OH

2006 - 2014

Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
988		REDACTED		C	290,345	1,949	2,776,294
991		REDACTED		C	383,872	2,317	2,739,635
994		REDACTED		R	203,540	1,485	2,442,930
997		REDACTED		C	321,905	2,048	2,216,521
1001		REDACTED		C	317,820	2,045	2,095,625
1005		REDACTED		R	228,972	2,215	1,942,805
1009		REDACTED		R	229,345	1,573	1,792,303
1012		REDACTED		R	122,875	1,428	1,634,440
1015		REDACTED		C	269,550	1,432	1,584,104
1018		REDACTED		C	124,515	1,213	1,477,662
1021		REDACTED		R	110,420	1,721	1,433,743
1025		REDACTED		C	197,610	1,463	1,429,028
1028		REDACTED		C	157,735	1,295	1,410,470
1031		REDACTED		R	164,190	1,227	1,378,320
1034		REDACTED		R	221,120	2,096	1,109,784
1038		REDACTED		R	84,930	741	1,077,949
1041		REDACTED		R	49,066	728	908,894
1044		REDACTED		C	112,215	1,217	907,080
1047		REDACTED		C	121,300	741	889,519
1050		REDACTED		C	49,300	603	858,816
1053		REDACTED		C	61,397	477	839,649
1056		REDACTED		C	75,820	876	802,936
1059		REDACTED		R	100	287	761,047
1063		REDACTED		R	132,100	954	738,985
1066		REDACTED		R	90,550	1,124	723,249
1069		REDACTED		R	89,860	564	710,781
1072		REDACTED		C	85,447	614	682,067
1075		REDACTED		R	96,800	771	657,693
1078		REDACTED		C	38,260	416	580,238
1081		REDACTED		C	49,755	548	579,038
1084		REDACTED		R	40,700	344	566,202
1087		REDACTED		R	54,675	709	539,208
1090		REDACTED		C	51,285	603	470,048
1093		REDACTED		C	65,880	409	423,083
1096		REDACTED		C	28,800	306	418,770
1099		REDACTED		R	34,290	349	401,794
1102		REDACTED		C	43,855	532	401,760
1105		REDACTED		C	78,020	943	376,315
1108		REDACTED		C	28,985	433	371,682
1111		REDACTED		C	27,442	271	368,712
1114		REDACTED		R	69,505	1,108	283,001

Opioid Shipments to Pharmacies in Cuyahoga County, OH

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
1118		REDACTED		C	31,400	253	272,249
1121		REDACTED		C	9,020	63	240,926
1124		REDACTED		R	28,140	210	240,137
1127		REDACTED		C	20,770	158	209,382
1130		REDACTED		R	16,380	187	207,927
1133		REDACTED		C	34,620	491	187,500
1136		REDACTED		C	15,725	165	178,848
1139		REDACTED		C	27,120	292	174,876
1142		REDACTED		C	19,370	243	174,444
1145		REDACTED		C	10,790	84	167,694
1148		REDACTED		R	8,955	64	167,575
1151		REDACTED		C	21,795	156	149,704
1154		REDACTED		C	21,550	159	143,798
1157		REDACTED		R	7,740	124	141,772
1160		REDACTED		R	12,530	83	139,504
1163		REDACTED		C	10,825	89	137,149
1166		REDACTED		C	8,410	138	120,228
1169		REDACTED		C	17,800	176	119,794
1172		REDACTED		R	5,525	69	117,052
1175		REDACTED		C	7,800	95	104,879
1178		REDACTED		R	NA	82	104,298
1181		REDACTED		C	12,340	129	76,102
1184		REDACTED		C	8,835	76	68,310
1187		REDACTED		C	9,715	107	64,309
1190		REDACTED		R	7,715	43	62,300
1193		REDACTED		R	12,990	84	52,125
1196		REDACTED		R	7,440	70	49,434
1199		REDACTED		C	7,400	57	45,222
1202		REDACTED		R	10,100	108	39,618
1206		REDACTED		R	5,910	38	32,264
1209		REDACTED		R	1,380	18	24,671
1212		REDACTED		R	1,510	13	22,649
1215		REDACTED		R	1,012	22	19,619
1218		REDACTED		R	2,618	18	15,812
1221		REDACTED		R	2,500	10	11,737
1224		REDACTED		R	1,600	10	10,101
1227		REDACTED		R	1,100	8	4,598
1230		REDACTED		R	900	4	3,632
1233		REDACTED		R	600	9	3,179
1236		REDACTED		R	500	7	2,476
1239		REDACTED		R	300	3	1,676

Opioid Shipments to Pharmacies in Cuyahoga County, OH
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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
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Note

1 "R" denotes "Retail Pharmacy", and "C" denotes "Chain Pharmacy"

Opioid Shipments to Pharmacies in Summit County, OH

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
1		REDACTED		R	8,443,233	121,592	229,791,622
4				R	7,253,003	107,198	208,411,897
7				R	5,903,449	97,100	174,737,230
11				R	5,173,203	74,287	128,815,387
14				C	6,031,901	68,594	108,394,947
19				R	5,958,246	59,042	87,404,636
23				R	3,734,333	43,742	86,229,782
27				C	7,437,315	57,147	82,079,399
31				C	6,931,522	46,701	69,545,895
36				C	5,038,035	43,024	65,972,776
40				C	4,836,422	42,701	62,202,915
44				C	4,602,677	39,392	61,888,598
48				R	4,298,764	38,371	59,245,746
52				C	5,221,638	37,773	54,705,405
57				C	3,363,407	32,769	51,811,510
62				C	3,993,229	35,294	49,264,106
66				C	4,740,572	34,607	47,818,706
70				R	2,369,636	29,669	46,520,276
74				R	2,781,075	29,922	46,141,849
78				R	2,927,586	24,813	42,910,897
82				C	3,106,770	27,727	41,765,424
87				C	3,229,381	24,627	41,295,290
91				C	3,448,212	27,729	41,263,834
95				C	4,083,262	30,200	40,392,593
99				C	3,793,949	26,953	38,066,603
103				C	3,793,240	27,388	37,426,446
107				C	3,267,322	25,733	36,804,795
111				C	4,074,691	27,747	36,700,349
116				C	2,267,241	22,984	36,442,243
119				R	2,732,900	19,432	36,305,435
123				C	2,496,517	24,310	35,309,849
127				R	3,313,101	25,542	34,837,474
131				C	2,691,340	21,720	33,251,693

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
135		REDACTED		C	2,436,735	23,362	33,237,638
139				C	2,376,951	22,693	32,936,027
143				C	2,230,484	18,627	31,779,620
147				C	2,087,832	23,233	31,278,077
151				R	1,576,718	20,834	30,957,103
155				C	1,980,665	17,790	30,883,083
160				C	2,690,597	21,758	30,755,735
164				R	1,413,330	15,926	29,991,105
168				C	3,283,756	21,981	29,400,879
172				C	2,013,302	19,296	29,355,258
177				R	1,265,557	19,023	29,143,635
184				R	1,741,195	18,273	28,778,562
188				R	796,373	17,152	27,838,498
191				C	2,184,150	18,869	27,713,925
196				C	2,184,896	19,108	27,268,155
200				C	2,933,284	19,021	26,210,309
205				C	2,751,111	20,057	26,165,880
209				R	1,768,797	15,691	25,782,756
213				C	1,818,288	15,823	25,695,036
217				C	1,769,270	16,847	24,988,429
221				C	2,526,197	17,243	24,440,590
226				R	2,057,054	16,134	24,084,358
230				C	1,957,126	15,358	23,814,674
234				R	1,197,345	9,567	23,599,717
238				C	2,369,047	16,577	23,541,311
243				R	2,165,663	16,650	21,917,129
247				C	1,651,208	13,460	21,882,714
251				C	1,926,906	14,999	21,872,465
255				C	1,334,130	12,845	19,867,041
259				C	1,892,800	15,107	18,881,742
263				C	1,551,279	12,753	18,308,901
267				C	2,437,077	14,449	17,968,008
271				R	1,318,341	11,195	17,775,688

Opioid Shipments to Pharmacies in Summit County, OH

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
275		REDACTED		R	1,234,452	10,117	16,918,648
279				C	1,974,590	12,852	16,685,669
283				C	1,934,569	12,469	16,505,331
287				R	1,327,595	10,461	15,707,417
291				C	2,095,015	12,618	15,666,883
295				R	819,059	8,865	15,554,813
299				C	1,161,026	9,103	15,397,299
303				C	1,466,825	10,917	15,126,138
308				C	1,308,885	8,907	14,070,097
312				R	1,096,191	8,302	13,827,561
316				C	1,674,530	10,348	13,288,290
320				C	1,148,016	8,803	13,239,248
323				C	1,157,684	10,688	12,592,610
327				R	518,921	7,673	11,855,220
330				R	845,177	7,742	11,724,148
334				C	1,152,540	8,825	11,246,993
338				R	736,906	5,515	11,063,499
342				C	1,116,287	7,178	9,985,670
346				C	1,651,751	8,510	9,805,197
350				C	990,387	7,549	9,734,273
354				R	562,685	4,245	9,664,475
358				R	836,810	5,947	9,594,564
362				R	877,840	5,407	9,190,293
366				R	1,067,750	8,421	9,042,570
370				R	NA	2,323	8,855,288
374				C	1,120,096	6,839	8,226,521
378				C	1,117,495	6,174	8,140,965
382				C	1,054,203	6,556	7,852,960
386				C	679,150	5,208	7,645,471
389				C	611,545	5,596	7,202,684
392				C	749,352	5,457	7,168,569
396				C	562,208	4,332	6,520,192
400				C	599,405	4,238	6,499,346

Opioid Shipments to Pharmacies in Summit County, OH

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
404		REDACTED		C	732,860	5,287	6,465,281
408				R	715,080	4,088	6,326,803
412				C	886,475	5,181	6,313,363
416				C	739,895	4,536	6,272,609
420				C	749,565	4,629	5,336,743
424				R	187,255	2,639	5,181,977
427				R	494,700	3,719	4,913,541
431				C	295,424	2,480	4,819,412
434				C	325,952	2,715	4,723,533
438				R	283,946	2,619	4,014,458
441				C	467,693	2,462	3,675,655
446				C	528,462	3,354	3,421,834
450				C	330,755	2,718	3,046,121
454				R	339,230	2,620	2,874,119
457				R	67,320	1,870	2,869,321
461				C	215,930	1,780	2,817,303
465				C	325,755	2,179	2,349,111
469				R	175,210	1,488	2,162,236
472				C	308,975	1,756	1,925,489
477				C	276,335	1,640	1,434,545
480				R	NA	946	1,427,207
483				C	183,459	1,091	1,335,771
487				C	75,815	458	1,175,799
491				C	116,620	803	1,006,798
494				C	61,820	509	876,246
497				R	36,845	258	825,287
500				C	42,370	471	689,206
503				C	85,390	562	655,663
507				R	22,885	357	560,164
510				C	33,510	378	504,156
513				R	67,645	526	465,785
516				C	30,780	239	455,845
519				R	NA	266	423,837

Opioid Shipments to Pharmacies in Summit County, OH

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Page	DEA Number	Pharmacy	Address	Type ¹	Total Dosage Units	Weight in mg	Total MME
522		REDACTED		R	35,310	177	185,506
525				R	43,600	184	173,696
528				C	18,600	110	109,598
531				C	15,200	83	74,327
534				R	18,010	103	64,447
538				R	NA	16	28,242
541				R	4,010	19	27,462
544				R	720	8	23,857
547				R	NA	7	6,787
550				R	NA	2	4,449

Note

1. "R" denotes "Retail Pharmacy", and "C" denotes "Chain Pharmacy".

Opioid Total MME by Company in Cuyahoga County, OH

Company Name	Market Share	County Population	1,312,816	1,301,540	1,291,479	1,285,082	1,278,200	1,270,461	1,266,210	1,264,622	1,262,459
		Total MME	514,672,000	567,224,195	595,633,999	664,429,159	700,133,566	715,923,558	663,462,852	622,682,981	579,123,262
Cardinal Health	31.52%	1,772,506,417	211,558,384	226,171,859	231,753,919	252,864,538	203,528,654	192,162,304	166,465,391	REDACTED	
AmerisourceBergen Drug	25.73%	1,446,867,175	74,341,574	89,417,108	93,430,832	112,487,542	183,416,748	195,494,791	182,084,787		
Walgreen Co	16.01%	900,461,722	102,739,278	113,357,810	124,504,422	127,680,333	137,345,884	138,289,923	120,879,178		
McKesson Corporation	15.27%	858,579,288	73,359,398	82,283,818	88,902,749	96,054,683	97,001,677	109,572,526	106,064,746		
CVS	3.08%	173,363,979	15,250,631	18,711,487	19,561,480	20,950,439	20,865,975	22,003,043	21,976,135		
Wal-Mart	1.28%	71,789,966	5,679,486	6,629,013	7,694,051	9,375,676	9,376,092	9,054,796	8,616,136		
H. D. Smith	1.18%	66,166,989	89,745	117,604	243,688	4,871,771	14,211,080	9,852,110	14,279,640		
Prescription Supply Inc	1.04%	58,441,306	13,734,295	11,283,779	10,684,735	11,633,735	1,510,935	2,535,165	2,751,589		
Anda, Inc	0.89%	50,178,701	1,746,390	1,562,323	2,505,022	2,933,492	1,145,317	2,429,220	3,700,976		
Discount Drug Mart	0.83%	46,893,714	4,264,887	4,919,559	4,964,080	5,606,245	5,607,325	5,580,369	5,472,090		
Rite Aid	0.75%	42,375,835	6,876,206	8,220,480	7,830,624	5,406,939	4,953,934	2,931,133	2,442,396		
HBC Service Company	0.75%	42,100,926	0	0	0	1,333,997	8,305,011	9,733,591	9,062,796		
Eckerd Corporation	0.37%	20,985,763	0	0	0	2,196,444	2,757,281	4,621,879	4,601,969		
KeySource Medical	0.25%	14,107,055	26,018	500,462	112,977	6,366,092	4,988,634	2,112,872	0		
West-Ward Pharmaceutical Corp.	0.22%	12,310,225	0	0	0	0	0	3,145,250	8,200,802		
Fagron Inc	0.17%	9,780,294	926,196	1,861,160	1,840,476	2,120,858	1,713,233	699,334	291,484		
Hospira Worldwide LLC	0.12%	6,591,230	0	0	40,304	187,257	574,736	1,496,509	3,494,472		
The Harvard Drug Group	0.06%	3,528,616	449,104	515,470	463,131	514,809	69,157	1,424,120	65,233		
River City Pharma	0.05%	2,919,369	3,315	0	9,512	465,789	552,747	1,346,558	487,484		
Henry Schein Inc	0.04%	2,093,698	159,333	144,199	135,264	107,329	144,866	279,383	335,320		
Akorn, Inc.	0.04%	2,038,285	0	0	0	0	0	0	294,910		
Smith Drug Company	0.03%	1,487,869	0	11,211	49,380	130,810	222,911	281,785	303,539		
Amneal Pharmaceuticals LLC	0.02%	1,325,826	0	0	0	0	0	0	0		
Safecor Health, LLC	0.02%	1,271,296	0	0	0	0	940	8,313	99,105		
PSS World Medical Inc	0.02%	1,192,883	272,869	155,286	182,675	177,526	166,566	165,631	72,331		
MWI Veterinary Supply	0.02%	1,111,976	0	303	1,438	5,089	38,094	103,960	149,815		
American Sales Company	0.02%	1,077,349	1,077,349	0	0	0	0	0	0		
Fisher Clinical Services Inc	0.02%	1,037,766	508,472	406,249	1,076	0	0	0	114,707		
Baxter Healthcare Corp	0.02%	884,536	0	0	0	4,136	880,400	0	0		
Value Drug Co	0.01%	807,273	0	0	0	0	0	0	0		
Miami-Lukens	0.01%	698,012	688,931	8,022	605	454	0	0	0		
Dispensing Solutions	0.01%	627,327	0	0	0	73,819	121,720	178,985	153,224		
Priority Healthcare	0.01%	589,832	82,314	49,854	56,395	70,750	66,897	58,183	74,062		
Quest Pharmaceuticals Inc	0.01%	561,456	0	0	23,059	113,867	58,287	47,675	295,377		
ACE Surgical Supply Co Inc	0.01%	468,215	77,500	75,500	78,700	74,575	76,706	67,876	11,043		
Patterson Logistics Services	0.01%	401,155	0	0	0	0	3,951	10,865	13,497		
Professional Vet Products	0.01%	394,428	41,880	84,063	102,853	110,434	55,197	0	0		
Pharmacy Service Ctr Distr	0.01%	354,958	71,915	70,308	94,827	65,651	44,099	8,158	0		
Almac Clinical Services, Inc.	0.01%	325,967	0	0	0	0	0	0	217,312		
Darby Dental Supply, LLC	0.01%	322,080	220,726	27,575	40,893	14,530	7,265	5,585	908		

Opioid Total MME by Company in Summit County, OH

Company Name	Market Share	County Population	544,660	544,275	543,116	542,135	541,648	541,293	540,716	541,601	542,095
			Total MME	367,366,660	400,893,335	382,352,016	419,131,994	472,731,914	474,030,643	447,468,100	420,702,314
	Market Share	MME	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cardinal Health	29.17%	1,094,306,610	109,945,174	120,729,880	134,595,363	166,421,419	142,185,012	109,793,985	98,636,285	REDACTED	
AmerisourceBergen Drug	26.01%	975,859,370	104,837,042	112,001,944	73,707,661	59,918,202	125,431,261	147,929,274	145,576,933		
McKesson Corporation	25.18%	944,639,007	64,615,079	75,326,267	92,025,606	100,767,249	99,622,867	112,858,772	109,216,034		
Walgreen Co	10.77%	404,162,318	42,298,424	48,542,791	53,098,944	58,638,984	65,393,996	62,985,269	55,986,121		
CVS	2.44%	91,634,443	7,735,298	9,648,482	9,957,458	11,317,292	11,277,436	12,074,340	11,639,009		
Anda, Inc	1.27%	47,823,397	23,113,707	18,494,173	199,496	1,068,668	785,565	1,485,215	1,991,707		
Miami-Lukens	1.24%	46,541,721	2,874,541	2,981,400	4,170,946	5,686,830	7,165,433	6,459,756	6,137,244		
Wal-Mart	1.12%	42,168,558	4,581,255	5,419,610	5,299,513	5,653,210	5,248,139	4,793,747	3,654,359		
HBC Service Company	0.91%	34,241,388	0	0	0	985,080	6,273,857	7,638,028	7,568,525		
Rite Aid	0.85%	32,036,395	4,786,038	5,616,594	5,748,119	3,409,806	93,330	3,800,833	3,548,284		
Discount Drug Mart	0.33%	12,518,489	1,111,471	1,324,559	1,375,870	1,541,632	1,525,410	1,470,976	1,362,368		
Eckerd Corporation	0.24%	9,021,990	0	0	0	1,563,573	4,772,779	805,493	672,011		
KeySource Medical	0.08%	2,947,595	0	0	547,041	470,315	1,447,043	483,197	0		
Amatheon Inc	0.07%	2,568,047	0	0	66,300	238,567	500,046	343,489	396,010		
Auburn Pharmaceutical	0.04%	1,565,315	220,971	7,856	538,832	114,370	110,217	133,590	98,553		
PSS World Medical Inc	0.03%	1,265,285	409,567	168,590	164,902	226,520	117,775	118,928	59,004		
Henry Schein Inc	0.03%	1,256,372	76,936	83,178	68,980	51,467	85,483	66,428	90,974		
Almac Clinical Services, Inc.	0.02%	761,726	112,320	0	0	0	64,838	173,100	293,332		
The Harvard Drug Group	0.02%	710,056	605	104,511	238,548	304,484	23,232	15,845	15,438		
H. D. Smith	0.01%	468,812	0	0	0	0	90,237	178,876	196,672		
River City Pharma	0.01%	461,355	0	3,784	0	85,505	3,930	27,092	24,216		
MWI Veterinary Supply	0.01%	443,562	4,238	3,330	2,292	1,800	43,133	133,576	87,509		
Southern Anesthesia & Surgical, Inc.	0.01%	380,191	0	0	0	0	0	0	39,219		
Priority Healthcare	0.01%	366,734	24,269	25,048	37,354	77,589	49,314	50,571	36,185		
American Sales Company	0.01%	365,639	365,639	0	0	0	0	0	0		
Butler Animal Health Supply	0.01%	358,824	22,137	22,083	35,832	234,314	44,458	0	0		
Rochester Drug Co-Operative Inc	0.01%	269,151	1,788	22,694	152,611	82,070	2,421	7,568	0		
Prescription Supply Inc	0.01%	264,716	2,252	143	0	63,907	42,696	1,278	27,038		
PD-Rx Pharmaceuticals Inc	0.01%	246,467	40,955	73,996	102,040	28,454	0	0	0		
Fisher Clinical Services Inc	0.01%	210,147	95,668	3,972	0	13,642	0	96,864	0		
Patterson Logistics Services	0.00%	170,924	0	0	0	0	22,340	32,349	20,618		
Expert-Med	0.00%	158,300	1,949	156,350	0	0	0	0	0		
JOM Pharmaceutical Services, Inc.	0.00%	156,862	0	0	0	0	156,862	0	0		
Midwest Veterinary Supply Inc	0.00%	155,446	303	605	286	0	0	0	303		
Associated Pharmacies Inc	0.00%	140,530	0	0	0	0	0	0	143		
Pharmacy Service Ctr Distr	0.00%	138,773	14,712	11,622	8,703	5,946	24,471	26,733	21,890		
Independent Pharmacy Cooperative	0.00%	133,075	0	0	0	0	0	0	0		
Fagron Inc	0.00%	117,493	0	0	60,540	56,400	0	553	0		
Watson Pharma Inc	0.00%	90,000	0	0	90,000	0	0	0	0		
Medisca Inc.	0.00%	76,730	0	15,135	0	0	15,135	0	0		
DRx Pharmaceutical Consultants, Inc.	0.00%	60,199	34,045	15,007	9,548	1,598	0	0	0		
Smith Medical Partners LLC	0.00%	53,196	0	0	0	0	53,196	0	0		
Darby Dental Supply, LLC	0.00%	52,034	7,357	6,811	3,632	9,081	6,659	6,054	4,238		